Amendments To The Claims:

Please amend the claims as shown.

1 – 30 (canceled)

31. (new) A steam turbine component assembly, comprising:

an inner housing having a surface exposed to a high temperature operating environment and an opposite surface exposed to a lower temperature operating environment where the temperature difference between the higher and lower temperature environments is at least 200°C;

an outer housing that surrounds the inner housing; and

a thermal barrier coating having a pre selected porosity, thickness or material composition applied to the higher temperature surface effective to control thermal deformation of the inner and outer housings relative to each other.

32. (new) The steam turbine assembly as claimed in claim 31, wherein the outer housing completely surrounds the inner housing.

33. (new) The steam turbine assembly as claimed in claim 31, wherein the higher temperature operating environment is between 450°C and 800°C.

34. (new) The steam turbine assembly as claimed in claim 31, wherein:

the thermal barrier coating is applied only in a steam inflow region of the steam turbine, or

the thermal barrier coating is applied in an inflow region and in a housing of a blading region of the steam turbine, or

the thermal barrier coating is applied only locally in a housing of a blading region.

35. (new) The steam turbine assembly as claimed in claim 31, wherein the porosity, thickness and material composition of the thermal barrier coating are predetermined.

36. (new) The steam turbine assembly as claimed in claim 31, wherein the thermal barrier coating controls thermal deformation of the housings between room temperature and a steam turbine operating temperature.

37. (new) The steam turbine assembly as claimed in claim 31, wherein:

the steam turbine assembly further comprises a plurality of inner and outer housings, and

the thermal barrier coating is applied to a housing of a blading region for reducing radial clearances in the steam turbine assembly.

38. (new) The steam turbine assembly as claimed in claim 31, wherein the thermal barrier coating is applied to a housing that adjoins another housing in order to match the coated housing thermal deformation to the thermal deformation of the adjoining housing.

39. (new) The steam turbine assembly as claimed in claim 31, wherein the thermal barrier coating is applied to a housing located in a steam inflow region of a steam turbine which adjoins a housing of a blading region, and the thermal deformation of the coated housing located in the steam inflow region is effectively controlled to match the thermal deformation of the adjoining housing of the blading region.

40. (new) The steam turbine assembly as claimed in claim 31, wherein the thickness of the thermal barrier coating is greater in the housing of the inflow region than in the housing of the blading region.

41. (new) The steam turbine assembly as claimed in claim 31, wherein the thermal barrier coating is applied to a valve housing.

42. (new) The steam turbine assembly as claimed in claims 41, wherein the thermal barrier coating is applied to a housing comprising a substrate comprising an iron-base, nickel-base or cobalt-base alloy.

43. (new) The steam turbine assembly as claimed in claims 42, wherein the thermal barrier coating comprises zirconium oxide or titanium oxide.

44. (new) The steam turbine assembly as claimed in claim 43, wherein the thermal barrier coating is applied to a housing having an intermediate protective layer arranged between the housing and the thermal barrier coating, the intermediate protective layer comprising the composition of MCrAlX where M is at least one element selected from the group consisting of nickel, cobalt or iron and X is yttrium or silicon or at least one rare earth element.

45. (new) The steam turbine assembly as claimed in claim 44, wherein the intermediate protective layer consists of:

11.5 wt% - 20 wt%, chromium,

0.3 wt% - 1.5 wt%, silicon,

0.0 wt% - 1.0 wt%, aluminum, and

remainder iron.

46. (new) The steam turbine assembly as claimed in claim 45, wherein the intermediate protective layer consists of:

12.5 wt% - 15 wt% chromium,

0.5 wt% - 1 wt% silicon,

0.1 wt% - 0.5 wt% aluminum, and

remainder iron.

47. (new) The steam turbine assembly as claimed in claim 46, wherein:

the erosion-resistant layer has a lower porosity than the thermal barrier coating,

the thermal barrier coating is porous, or

the thermal barrier coating has a porosity gradient, or

the thermal barrier coating porosity is highest in an outer region of the thermal barrier coating, or

the thermal barrier coating porosity is lowest in an outer region of the thermal barrier coating, or

the thermal barrier coating thickness is locally different, or

the thermal barrier coating material is locally different, or

the thermal barrier coating is applied locally in surface regions of the housing or valve.

48. A steam turbine, comprising:

a turbine shaft located coaxially with a axis of rotation of the turbine;

a high-pressure part-turbine and an intermediate-pressure part-turbine;

an inner housing associated with the high-pressure part-turbine and the intermediate - pressure part-turbine where the inner housing has a surface exposed to a high temperature operating environment and an opposite surface exposed to a lower temperature operating environment where the temperature difference between the higher and lower temperature environments is at least 200°C;

an outer housing that surrounds the inner housing; and

a thermal barrier coating having a pre selected porosity, thickness or material composition applied to the higher temperature surface effective to control thermal deformation of the inner and outer housings relative to each other.

49. (new) A high temperature turbine component, comprising:

a base material having:

a low temperature surface;

a high temperature surface opposite the low temperature side where the high temperature side is exposed to an environment at least 200°C hotter than the low temperature side; and

a thermal barrier coating having a pre selected porosity, thickness or material composition applied to the higher temperature surface effective to control thermal deformation of the inner and outer housings relative to each other.